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JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

(11) Publication number: **2001235980 A**

(43) Date of publication of application: **31.08.01**

(51) Int. Cl
G03G 21/00
B41J 29/42
B65H 1/00
G03G 15/00
H04N 1/00

(21) Application number: **2000046461**

(22) Date of filing: **23.02.00**

(71) Applicant: **MURATA MACH LTD**

(72) Inventor: **ISHIYAMA KATSUNORI**
FUKUI TOMOSHI

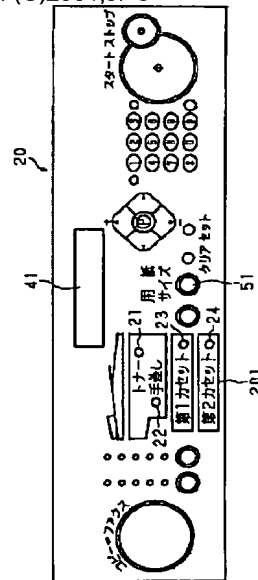
(54) **IMAGE FORMING DEVICE**

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(57) Abstract:

PROBLEM TO BE SOLVED: To provide an image forming device enabling intuitive prehension of the state of each part of a device and providing a user with more information relating to each part of the device in a small display area.

SOLUTION: The state relating to components of devices, such as a paper sheet cassette and toner bottle, for example, paper out, paper jam, exhausting of toner or the like, are displayed by lighting and blink or the like of a toner LED 21 and manual tray LED 22, first cassette LED 23, and second cassette LED 24 pairing a red and green lamps on a typical graphic 201 showing the arrangement of these components in the outline drawing of the whole device at the position equivalent to the arrangement of each component.



REF AQ1
JP 2001-235980 A

(11)Publication number : 2001-235980 (51)Int.CI. G03G 21/00
(43)Date of publication of application : 31.08.2001 B41J 29/42
B65H 1/00
G03G 15/00
H04N 1/00

(21)Application number : 2000-046461 (71)Applicant : MURATA MACH LTD
(22)Date of filing : 23.02.2000 (72)Inventor : ISHIYAMA KATSUNORI
FUKUI TOMOSHI

(54) IMAGE FORMING DEVICE

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CLAIMS

[Claim(s)]

[Claim 1] The image-formation equipment characterized by to have the control section which switches the display of the location on the display which displays the condition relevant to each component on the location equivalent to the arrangement location of each component on the graphic form in which arrangement of the component in equipment was shown typically, and the graphic form which detect the condition relevant to a component and are equivalent to the arrangement location of this component to the display according to the condition detected.

[Claim 2] It is image-formation equipment according to claim 1 which said components are two or more form cassettes which contain two or more sorts of recording papers, respectively, and is characterized by to equip said display with a display means display each condition of two or more sorts of attributes of the form cassette containing the existence of the recording paper that it is the form cassette of the recording paper chosen as the recording paper of the class which should record an image, and in a form cassette in a different display mode.

[Claim 3] Said display means is image formation equipment according to claim 2 characterized by being said means to distinguish the condition of the attribute of a seed by the color of a display, and to display them, respectively. [two or more]

DETAILED DESCRIPTION

[Detailed Description of the Invention]**[0001]**

[Field of the Invention] This invention relates to the image-formation equipments equipped with the function which displays the condition relevant to form cassettes -- whether a form cassette was chose as outline drawing of the whole equipment, use the typical graphic form in which arrangement of components, such as a form cassette, a toner bottle, and a drum, was showed, or the recording paper is in a form cassette -- by lighting/flashing, etc. of the LED allotted to the location on the graphic form equivalent to the arrangement location of the form cassette correspond, such as facsimile apparatus and a copying machine.

[0002]

[Description of the Prior Art] Generally with image formation equipment like a copying machine, the display for displaying various messages, such as operating state of equipment or a form piece, a toner piece, and a paper jam, a ten key, various function keys, etc. are intensively formed in the control panel of the front face of equipment. Therefore, an operator performs alter operation of various setup, such as a copy scale factor, recording paper size, and concentration, looking at a control panel, and directs initiation of a copy etc.

[0003]

[Problem(s) to be Solved by the Invention] However, since it must report of which size a form is a form piece to coincidence in order for a message to report a form piece in the case of equipment equipped with two or more steps of form cassettes for containing the detail paper of two or more sorts of sizes, respectively, the display of sufficient size to express the character string of these messages as one screen is needed.

[0004] Furthermore, since [for example,] it is intuitively unclear for an operator whether the cassette which is a form piece is equivalent to the form

cassette of which stage even if the message "A4 width is a form piece" is reported to an operator, In case a form is supplied, a mark the paper size generally attached to the front face of a form cassette, and longitude/sideways one is confirmed, or a form cassette must actually be opened and size and the sense must be confirmed.

[0005]Are made in order that this invention may solve such a trouble, and the typical graphic form which showed arrangement of components, such as a form cassette, in outline drawing of the whole equipment is used. For example, [which recording paper in two or more steps of form cassettes was chosen as an object for a copy, and]The condition relevant to the component of the equipment of whether the recording paper in one of form cassettes is off, the paper jam of the recording paper having occurred in which form cassetteBy displaying by lighting/flashing of LED allotted to the location on the graphic form equivalent to the arrangement location of the corresponding form cassette, a user can grasp the condition of each part of equipment intuitively, and they are few screen products. It aims [rather than] at offer of the image formation equipment which provides a user with much information in relation to each part of equipment.

[0006]

[Means for Solving the Problem]The image-formation equipment of the 1st invention is characterized by to have had the control section which switches the display of the location on the display which displays the condition relevant to each component on the location equivalent to the arrangement location of each component on the graphic form in which arrangement of the component in equipment was shown typically, and the graphic form which detect the condition relevant to a component and are equivalent to the arrangement location of this component to the display according to the condition detected.

[0007]In the 1st invention, the life of the condition relevant to the component of equipments, such as a form cassette, a toner bottle, and a drum, for example, a form piece, a toner piece, and a drum etc. is displayed on the location equivalent to the arrangement location of each component on the typical graphic form which showed arrangement of these components in outline drawing of the whole equipment. Thereby, a user can grasp the condition of each part of equipment intuitively.

[0008]The image-formation equipment of the 2nd invention is two or more form cassettes by which the component of the 1st invention contains two or more sorts of recording papers, respectively, and said display is characterized by to have a display means display each condition of two or more sorts of attributes of the form cassette containing the existence of the recording paper that it is the form cassette of the recording paper chosen as the recording paper of the class which should record an image, and in a form cassette in a different display mode.

[0009]By the 2nd invention, each of two or more sorts of attributes of a form cassette -- of which form cassette in further two or more form cassettes the recording paper was chosen as the copy, whether one of form cassettes is form pieces, or by which form cassette the paper jam occurred -- is displayed in a different display mode. Thereby, many kinds relevant to each component of conditions can be collectively displayed on a small screen product called an one graphic form top.

[0010]The image formation equipment of the 3rd invention is characterized by the display means of the 2nd invention being said means to distinguish the condition of the attribute of a seed by the color of a display, and to display them, respectively. [two or more]

[0011]In the 3rd invention, as it is lighting of green LED about the recording paper of for example, a form cassette having been chosen as the copy and said further that a form piece was displayed by lighting of red LED, each condition of two or more attributes of a component is distinguished and expressed as the color of a display using one graphic form.

[0012]Thereby, a user can grasp the condition intuitively, even if each condition

of two or more sorts of attributes is displayed in relation to each component.

[0013]

[Embodiment of the Invention] Drawing 1 is the functional block diagram of the facsimile apparatus with a copy function concerning this invention (henceforth this invention equipment). The main control section 1 which consists of a CPU performs the computer program stored in ROM6, and performs software which encodes or decrypts the drawing data of a manuscript with coding methods, such as MH, MR, and MMR, such as coding and a decryption, and a communication procedure, while it controls each part of equipment connected through the bus.

[0014] Moreover, the detachable tray 32 of the Records Department 3 which the main control section 1 mentions later, the 1st cassette 33, the 2nd cassette 34, each condition of two or more attributes in relation to the component of toner bottle 31 grade, For example, the typical graphic form top which showed arrangement of these components in outline drawing of the whole equipment currently displayed on the control panel 20 which mentions a form piece, a paper jam, a toner piece, etc. later, It displays by the failing mark LGT of the possible toner LED 21 and detachable tray LED22 of red and the coloring change colored alternatively green which were prepared in the location equivalent to the arrangement location of each component, the 1st cassette LED 23, and the 2nd cassette LED 24, and green lighting, respectively.

[0015] A read station 2 reads a manuscript with the scanner using CCD etc., and outputs the drawing data of a monochrome binary manuscript. The Records Department 3 is printers, such as an electrophotography method, has the 1st cassette 33 and the 2nd cassette 34 which feed paper to the form of two or more sorts of sizes other than the toner bottle 31 which contains a toner, and the detachable tray 32 which feeds paper to a form by manual bypass, respectively, and prints out the drawing data received by facsimile communication, or the drawing data of the manuscript which the read station 2 read.

[0016] Moreover, the sensor turned on where the recording paper is inserted in a detachable tray 32, and the sensor which detects the cassette size of the 1st cassette 33 and the 2nd cassette 34 are prepared for the Records Department 3.

[0017] A display 4 is equipped with the display 41 of a liquid crystal display, a CRT display, etc., and performs the operating state of facsimile apparatus, and the display of the drawing data of the manuscript which should be transmitted, or the received drawing data so that it may mention later.

[0018] Moreover, in this example, the message of the detailed contents of the failing mark LGT of the toner LED 21 mentioned later, detachable tray LED22, the 1st cassette LED 23, and the 2nd cassette LED 24 and green lighting, for example, a paper size, a paper jam, and a form piece etc. is displayed on a display 41.

[0019] The control unit 5 is equipped with various kinds of function keys like the paper-size key 51 for choosing a ten key required operating facsimile apparatus, a compaction dialing key, an one-touch dialing key, and a paper size etc.

[0020] Drawing 2 is the layout pattern of the control panel 20 which consists of a display 4 and a control unit 5. The graphic form 201 which showed typically the arrangement location of the toner bottle 31, a detachable tray 32, the 1st cassette 33, and the 2nd cassette 34 in outline drawing of the whole equipment is displayed on the control panel 20.

[0021] Red and the possible toner LED 21 of a coloring change which colors alternatively green, detachable tray LED22, the 1st cassette LED 23, and the 2nd cassette LED 24 are formed for each which displays the condition relevant to the toner bottle 31, a detachable tray 32, the 1st cassette 33, and the 2nd cassette 34 by the lighting and flashing, respectively in the location equivalent to each arrangement location on a graphic form 201.

[0022] In addition, although this example explained the case where it was one LED which can change coloring of a toner LED 21, detachable tray LED22, the 1st

cassette LED 23, and the 2nd cassette LED 24, two LED from which coloring differs may be prepared in each. However, the way using one LED which can change coloring is connected with space-saving [of a control panel 20].

[0023]ROM6 memorizes software required for actuation of facsimile apparatus. RAM7 consists of SRAM, a flash memory, etc., and memorizes temporary data generated at the time of activation of software. An image memory 8 consists of DRAMs etc. and stores the drawing data of the manuscript which the read station 2 read, or the drawing data received from other equipments.

[0024]A modem 9 is a modem for carrying out facsimile communication of the drawing data of the manuscript which the read station 2 read, it connects with NCU (Network Control Unit)11 which performs closing and disconnection of an analog network with a dial-up line network, and a modem 9 is connected with a dial-up line network if needed. In addition, you may make it connect with the digital line network (ISDN) of a base band transmission method by having DSU (Digital Service Unit: subscriber line terminating set).

[0025]Next, the display action of this invention equipment to a control panel 20 is explained based on the flow chart of drawing 3 thru/or drawing 5. An injection of the power source of equipment confirms whether a form is in the 1st cassette 33 (step S1). When a form is in the 1st cassette 33, the 1st cassette 33 is chosen the first stage, the green of the 1st cassette LED 23 is turned on (step S2), and the paper sizes (A4, A4R, B4, etc.) of the 1st cassette 33 are displayed on DIPUREI 41 (step S3).

[0026]On the other hand, when [in step S1] there is no form in the 1st cassette 33 as a result of a check, it is confirmed whether turn on the red of the 1st cassette LED 23 (step S4), and a form is in the 2nd cassette 34 (step S5). When there is no form in the 1st cassette 33 and a form is in the 2nd cassette 34, the 2nd cassette 34 is chosen the first stage, the green of the 2nd cassette LED 24 is turned on (step S6), and the paper size of the 2nd cassette 34 is displayed on a display 41 (step S7).

[0027]On the other hand, when [in step S5] there is no form in the 2nd cassette 34 as a result of a check, it is confirmed whether turn on the red of the 2nd cassette LED 24 (step S8), and a form is in a detachable tray 32 (step S9). When a form is in a detachable tray 32, the green of detachable tray LED22 is turned on (step S10). On the other hand, when there is no form in a detachable tray 32, the red of detachable tray LED22 is turned on (step S11).

[0028]next, it reports to a user that turn on the green of a toner LED 31 in a certain case (step S13), a toner blinks the green of a toner LED 31 when the residue of a toner is little (step S14), and it is [check the residue of the toner of the toner bottle 31 (step S12), and] alike soon enough, and supply of a toner is needed, and it is shifted to step S16. When there is no residue of a toner, the above-mentioned steps S1-S12 are repeated and a toner is supplied until it turns on the red of a toner LED 31 (step S15) and a toner is supplied, it shifts to step S16.

[0029]There are residues of enough of a toner, or although it is little, it can judge with it being the amount in which **** is possible, and if actuation which chooses a form is performed (step S16), it will judge whether there is a form and it was chosen by the 1st cassette 33 (step S17). When there is a form and it is chosen by the 1st cassette 33, the green of the 1st cassette LED 23 is turned on, and the paper size of the 1st cassette 33 is displayed on a display 41 (step S18).

[0030]When there is not that either which there is no form in the 1st cassette 33, or is not chosen as a result of the judgment of step S17, or a form, either and selection is not made, either, it judges whether there is a form and it was chosen by the 2nd cassette 34 (step S19). When there is a form and it is chosen by the 2nd cassette 34, the green of the 2nd cassette LED 24 is turned on, and the paper size of the 2nd cassette 34 is displayed on a display 41 (step S20).

[0031]When there is not that either which there is no form in the 2nd cassette 34, or is not chosen as a result of the judgment of step S19, or a form, either

and selection is not made, either, it judges whether there is a form and it was chosen by the detachable tray 32 (step S21). When there is a form and it is chosen by the detachable tray 32, the green of detachable tray LED22 is turned on, and the form width of face of a detachable tray 32 is displayed on a display 41 (step S22).

[0032]When there is not that either which there is no form in a detachable tray 32, or is not chosen as a result of the judgment of step S21, or a form, either and selection is not made, eitherAlthough there is a form among a detachable tray 32, the 1st cassette 33, and the 2nd cassette 34, the green of LED 22, 23, and 24 is turned on (step S23). "Automatic", i.e., manuscript size, is automatically judged on a display 41, a form is chosen, and it indicates that it is the mode to copy (step S24).

[0033]Next, steps S16-S24 are repeated until number of copies is inputted, it judges whether the start key was pushed (step S25), number of copies is inputted and a start key is pushed. If number of copies is inputted and a start key is pushed (YES of step S25), paper is fed to a form from hand control or the 1st cassette 33 chosen automatically, the 2nd cassette 34, or a detachable tray 32, and the image which the read station 2 read is printed out in a form (step S26).

[0034]If the 1st cassette 33, the 2nd cassette 34, or a detachable tray 32 will start the check of being a paper jam if print-out is started (step S27), and a paper jam is detected to eitherLED 23 and 24 of the 1st cassette 33 which the paper jam generated, the 2nd cassette 34, or a detachable tray 32, or 22 is changed to red lighting (step S28). The message "Cassette n (or detachable tray) is a paper jam" is displayed on a display 41 (step S29).

[0035]When it confirms whether a form is in the 1st cassette 33 when the check of step S27 does not detect generating of a paper jam (step S30) and there is no form in the 1st cassette 33, the red of the 1st cassette LED 23 is turned on and it is confirmed whether ** is in number of copies which should display and (step S31) print out the message of "having no 1st cassette form" on a display 41 (step S32).

[0036]When the number of the remainders is to have exhausted the form to the 1st cassette 33, steps S27-S31 are repeated until it returns to step S27 and a form is supplied. Processing is ended, after repeating the step after step S26 and completing the print for number of copies, judging whether it is termination of the print for number of copies (step S33), when a form is in the 1st cassette 33 as a result of the check of step S30.

[0037]

[Effect of the Invention]Since the life of the condition relevant to the component of equipments, such as a form cassette, a toner bottle, and a drum, for example, a form piece, a toner piece, and a drum etc. displays on the location equivalent to the arrangement location of each component on the typical graphic form which showed arrangement of these components in outline drawing of the whole equipment, in the 1st invention, a user does so the outstanding effectiveness that the condition of each part of equipment can grasp intuitively.

[0038]In the 2nd invention [of which form cassette in two or more form cassettes the recording paper was chosen as the copy, and]Since each of two or more sorts of attributes of a form cassette -- whether one of form cassettes is form pieces or by which form cassette the paper jam occurred -- is displayed in a different display modeThe outstanding effectiveness that many kinds relevant to each component of conditions can be collectively displayed on a small screen product called an one graphic form top is done so.

[0039]In the 3rd invention, that the recording paper of a form cassette was chosen as the copy, for example by lighting of green LEDSince each condition of two or more attributes of a component is distinguished and displayed by the color of a display using one graphic form as it said that a form piece was displayed by lighting of red LED, moreover, a userEven if each condition of two or more sorts of attributes is displayed in relation to each component, the outstanding effectiveness that the condition can be grasped intuitively is done so.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the functional block diagram of this invention equipment.

[Drawing 2] It is the layout pattern of the control panel of this invention equipment.

[Drawing 3] It is the flow chart (the 1) of the display action of this invention equipment to a control panel.

[Drawing 4] It is the flow chart (the 2) of the display action of this invention equipment to a control panel.

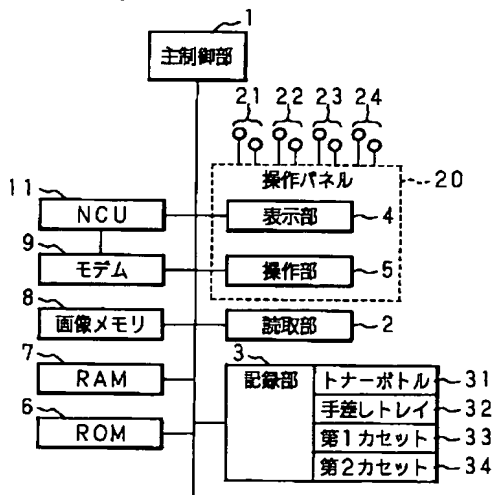
[Drawing 5] It is the flow chart (the 3) of the display action of this invention equipment to a control panel.

[Description of Notations]

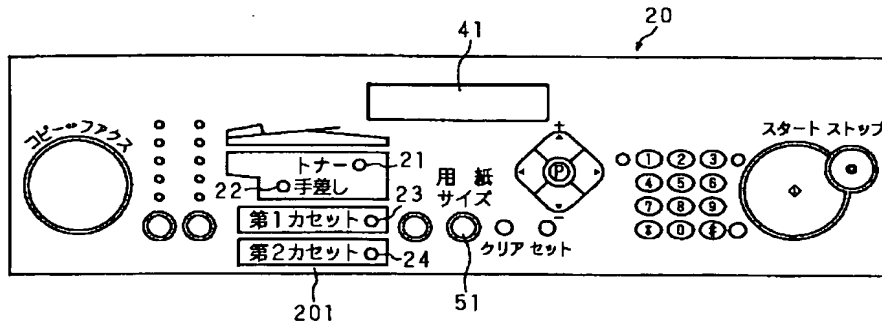
- 1 Main Control Section
- 2 Read Station
- 3 Records Department
- 4 Display
- 5 Control Unit
- 6 ROM
- 7 RAM
- 8 Image Memory
- 9 Modem
- 11 NCU
- 20 Control Panel
- 21 Toner LED
- 22 Detachable Tray LED
- 23 1st Cassette LED
- 24 2nd Cassette LED
- 41 Display
- 51 Paper-Size Key
- 201 Graphic Form

DRAWINGS

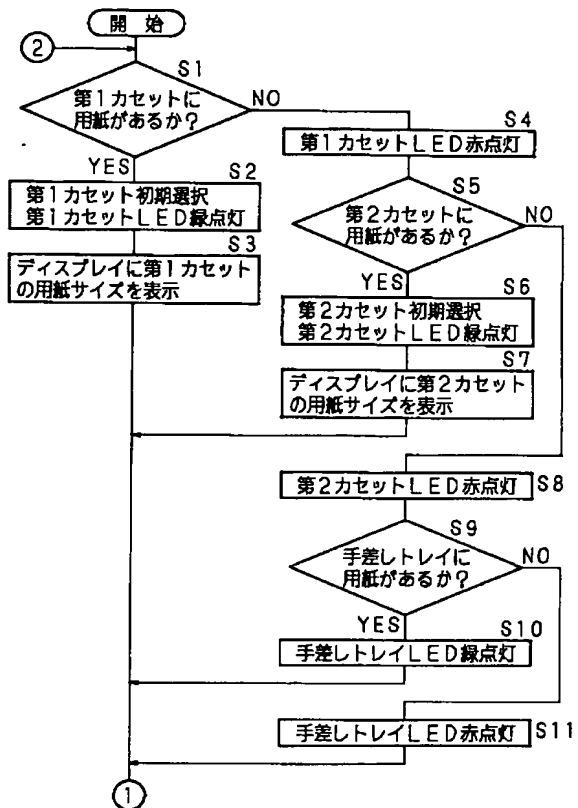
[Drawing 1]



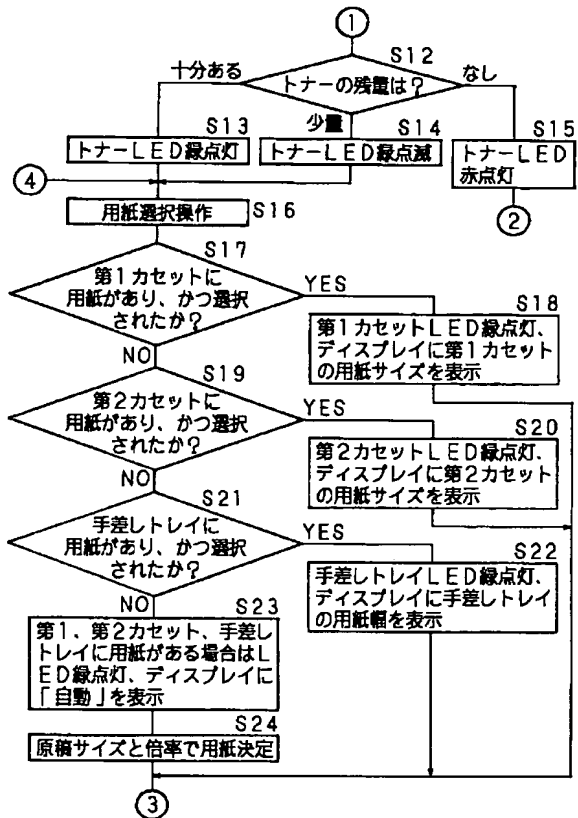
[Drawing 2]



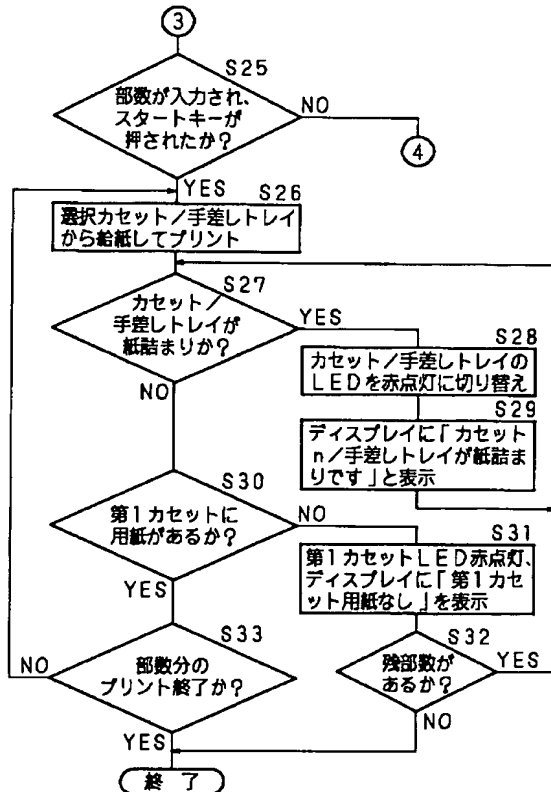
[Drawing 3]



[Drawing 4]



[Drawing 5]



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CLAIMS

[Claim 1] The image-formation equipment characterized by to have the control section which switches the display of the location on the display which displays the condition relevant to each component on the location equivalent to the arrangement location of each component on the graphic form in which arrangement of the component in equipment was shown typically, and the graphic form which detect the condition relevant to a component and are equivalent to the arrangement location of this component to the display according to the condition detected.

[Claim 2] It is image-formation equipment according to claim 1 which said components are two or more form cassettes which contain two or more sorts of recording papers, respectively, and is characterized by to equip said display with a display means display each condition of two or more sorts of attributes of a form cassette containing existence of the recording paper that it is the form cassette of the recording paper chose as the recording paper of a class which should record an image, and in a form cassette in a different display mode.

[Claim 3] Said display means is image formation equipment according to claim 2 characterized by being said means to distinguish a condition of the attribute of a seed by color of a display, and to display them, respectively. [two or more]

DETAILED DESCRIPTION

[0001]

[The technical field to which invention belongs] This invention relates to the image-formation equipments equipped with the function which displays the condition relevant to form cassettes, -- whether a form cassette was chose as outline drawing of the whole equipment, use the typical graphic form in which arrangement of components, such as a form cassette, a toner bottle, and a drum, was showed, or the recording paper is in a form cassette -- by burning/a flash, etc. of the LED allotted to the location on the graphic form equivalent to the arrangement location of the form cassette correspond, such as facsimile apparatus and a copying machine,

[0002]

[Description of the Prior Art] Generally with image formation equipment like a copying machine, the display for displaying various messages, such as operating state of equipment or a form piece, a toner piece, and a paper jam, a ten key, various function keys, etc. are intensively formed in the control panel of the front face of equipment. Therefore, an operator performs alter operation of various setting out, such as acopy scale factor, recording paper size, and concentration, looking at a control panel, and directs initiation of a copy etc.

[0003]

[Problem(s) to be Solved by the Invention] However, since it must report of which size a form is a form piece simultaneously in order for a message to report a form piece in the case of equipment equipped with two or more steps of form cassettes for containing the recording paper of two or more sorts of sizes, respectively, the display of sufficient size to express the character string of these messages as on one screen is needed.

[0004] Furthermore, since [for example,] it is intuitively unclear for an operator whether the cassette which is a form piece is equivalent to the form cassette of which stage even if the message "A4 width is a form piece" is reported to an operator, In case a form is supplied, a mark the paper size generally attached to the front face of a form cassette, and the vertical sense / sideways one is confirmed, or a form cassette must be opened actually and size and the sense must be confirmed.

[0005] Are made in order that this invention may solve such a trouble, and the typical graphic form which showed arrangement of components, such as a form cassette, in outline drawing of the whole equipment is used. For example, [which recording paper in two or more steps of form cassettes was chosen as an object for a copy, and] The condition relevant to the component of the equipment of whether the recording paper in one of form cassettes is off, the paper jam of the recording paper having occurred in which form cassette By displaying by burning/flash of LED allotted to the location on the graphic form equivalent to the arrangement location of the corresponding form cassette, a user can grasp the condition of each part of equipment intuitively, and they are few screen products. It aims [rather than] at offer of the image formation equipment which provides a user with much information in

relation to each part of equipment.

[0006]

[Means for Solving the Problem] The image-formation equipment of the 1st invention is characterized by to have had the control section which switches the display of the location on the display which displays the condition relevant to each component on the location equivalent to the arrangement location of each component on the graphic form in which arrangement of the component in equipment was shown typically, and the graphic form which detect the condition relevant to a component and are equivalent to the arrangement location of this component to the display according to the condition detected.

[0007] In the 1st invention, a life of a condition relevant to a component of equipments, such as a form cassette, a toner bottle, and a drum, for example, a form piece, a toner piece, and a drum etc. is displayed on a location equivalent to an arrangement location of each component on a typical graphic form which showed arrangement of these components in outline drawing of the whole equipment. Thereby, a user can grasp a condition of each part of equipment intuitively.

[0008] The image-formation equipment of the 2nd invention is two or more form cassettes by which a component of the 1st invention contains two or more sorts of recording papers, respectively, and said display is characterized by to have a display means display each condition of two or more sorts of attributes of a form cassette containing existence of the recording paper that it is the form cassette of the recording paper chose as the recording paper of a class which should record an image, and in a form cassette in a different display mode.

[0009] By the 2nd invention, each of two or more sorts of attributes of a form cassette — of which form cassette in further two or more form cassettes the recording paper was chosen as the copy, whether one of form cassettes is form pieces, or by which form cassette a paper jam occurred — is displayed in a different display mode. Thereby, many kinds relevant to each component of conditions can be collectively displayed on a small screen product called an one graphic form top.

[0010] Image formation equipment of the 3rd invention is characterized by a display means of the 2nd invention being said means to distinguish a condition of the attribute of a seed by color of a display, and to display them, respectively. [two or more]

[0011] In the 3rd invention, as it is burning of green LED about the recording paper of for example, a form cassette having been chosen as the copy and said further that a form piece was displayed by burning of red LED, each condition of two or more attributes of a component is distinguished and expressed as a color of a display using one graphic form.

[0012] Thereby, a user can grasp the condition intuitively, even if each condition of two or more sorts of attributes is displayed in relation to each component.

[0013]

[Embodiment of the Invention] Drawing 1 is the functional block diagram of the facsimile apparatus with a copy function concerning this invention (henceforth this invention equipment). The main control section 1 which consists of a CPU performs the computer program stored in ROM 6, and performs software which encodes or decrypts the drawing data of a manuscript with coding methods, such as MH, MR, and MMR, such as coding and a decryption, and a communication procedure, while it controls each part of equipment connected through the bus.

[0014] Moreover, the detachable tray 32 of the Records Department 3 which the main control section 1 mentions later, the 1st cassette 33, the 2nd cassette 34, each condition of two or more attributes in relation to the component of toner bottle 31 grade, For example, the typical graphic form top which showed arrangement of these components in outline drawing of the whole equipment currently displayed on the control panel 20 which mentions a form piece, a paper jam, a toner piece, etc. later, It displays by the failing mark LGT of the possible toner LED 21 and detachable tray LED 22 of red and the coloring change colored selectively green which were prepared in the location equivalent to the arrangement location of each component, the 1st cassette LED 23, and the 2nd cassette LED 24, and green burning, respectively.

[0015] A read station 2 reads a manuscript with the scanner using CCD etc., and outputs the drawing data of a monochrome binary manuscript. The Records Department 3 is printers, such as an electrophotography method, has the 1st cassette 33 and the 2nd cassette 34 which feed paper to the form of two or more sorts of sizes other than the toner bottle 31 which contains a toner, and the detachable tray 32 which feeds paper to a form by manual bypass, respectively, and prints out the drawing data received by facsimile communication, or the drawing data of the manuscript which the read station 2 read.

[0016] Moreover, the sensor turned on where the recording paper is inserted in a detachable tray 32, and the sensor which detects the cassette size of the 1st cassette 33 and the 2nd cassette 34 are prepared for the Records Department 3.

[0017] A display 4 is equipped with the display 41 of a liquid crystal display, a CRT display, etc., and performs the operating state of facsimile apparatus, and the display of the drawing data of the manuscript which should be transmitted, or the received drawing data so that it may mention later.

[0018] Moreover, in this example, the message of the detailed content of the failing mark LGT of the toner LED 21 mentioned later, detachable tray LED 22, the 1st cassette LED 23, and the 2nd cassette LED 24 and green burning, for example, a paper size, a paper jam, and a form piece etc. is displayed on a display 41.

[0019] The control unit 5 is equipped with various kinds of function keys like the paper-size key 51 for choosing a ten key required operating facsimile apparatus, a compaction dialing key, an one-touch dialing key, and a paper size etc.

[0020] Drawing 2 is the layout pattern of the control panel 20 which consists of a display 4 and a control unit 5. The graphic form 201 which showed typically the arrangement location of the toner bottle 31, a detachable tray 32, the 1st cassette 33, and the 2nd cassette 34 in outlined drawing of the whole equipment is displayed on the control panel 20.

[0021] Red and the possible toner LED 21 of a coloring change which colors selectively green, detachable tray LED 22, the 1st cassette LED 23, and the 2nd cassette LED 24 are formed for each which displays the condition relevant to the toner bottle 31, a detachable tray 32, the 1st cassette 33, and the 2nd cassette 34 by the burning and flash, respectively in the location equivalent to each arrangement location on a graphic form 201.

[0022] In addition, although this example explained the case where it was one LED which can change coloring of a toner LED 21, detachable tray LED 22, the 1st cassette LED 23, and the 2nd cassette LED 24, two LED from which coloring differs may be prepared in each. However, the way using one LED which can change coloring is connected with space-saving

[of a control panel 20].

[0023] ROM 6 memorizes software required for actuation of facsimile apparatus. RAM 7 consists of SRAM, a flash memory, etc., and memorizes temporary data generated at the time of activation of software. An image memory 8 consists of DRAMs etc. and stores the drawing data of the manuscript which the read station 2 read, or the drawing data received from other equipments.

[0024] A modem 9 is a modem for carrying out facsimile communication of the drawing data of the manuscript which the read station 2 read, it connects with NCU (Network Control Unit) 11 which performs closing and disconnection of an analog network with a dial-up line network, and a modem 9 is connected with a dial-up line network if needed. In addition, you may make it connect with the digital line network (ISDN) of a base band transmission method by having DSU (Digital Service Unit: subscriber line terminating set).

[0025] Next, the display action of this invention equipment to a control panel 20 is explained based on the flow chart of drawing 3 thru/drawing 5. The charge of the power supply of equipment confirms whether a form is in the 1st cassette 33 (step S1). When a form is in the 1st cassette 33, the 1st cassette 33 is chosen the first stage, the green of the 1st cassette LED 23 is turned on (step S2), and the paper sizes (A4, A4R, B4, etc.) of the 1st cassette 33 are displayed on display 41 (step S3).

[0026] On the other hand, when [in step S1] there is no form in the 1st cassette 33 as a result of a check, it is confirmed whether turn on the red of the 1st cassette LED 23 (step S4), and a form is in the 2nd cassette 34 (step S5). When there is no form in the 1st cassette 33 and a form is in the 2nd cassette 34, the 2nd cassette 34 is chosen the first stage, the green of the 2nd cassette LED 24 is turned on (step S6), and the paper size of the 2nd cassette 34 is displayed on a display 41 (step S7).

[0027] On the other hand, when [in step S5] there is no form in the 2nd cassette 34 as a result of a check, it is confirmed whether turn on the red of the 2nd cassette LED 24 (step S8), and a form is in a detachable tray 32 (step S9). When a form is in a detachable tray 32, the green of detachable tray LED 22 is turned on (step S10). On the other hand, when there is no form in a detachable tray 32, the red of detachable tray LED 22 is turned on (step S11).

[0028] next, it reports to a user that turn on the green of a toner LED 31 in a certain case (step S13), a toner blinks the green of a toner LED 31 when the residue of a toner is little (step S14), and it is [check the residue of the toner of the toner bottle 31 (step S12), and] alike soon enough, and make up of a toner is needed, and it is shifted to step S16. When the above-mentioned steps S1-S12 are supplied to a repeat and a toner, it shifts to step S16, until it turns on the red of a toner LED 31 when there is no residue of a toner (step S15), and a toner is supplied.

[0029] There are residues of enough of a toner, or although it is little, it can judge with it being the amount in which **** is possible, and if actuation which chooses a form is performed (step S16), it will judge whether there is a form and it was chosen by the 1st cassette 33 (step S17). When there is a form and it is chosen by the 1st cassette 33, the green of the 1st cassette LED 23 is turned on, and the paper size of the 1st cassette 33 is displayed on a display 41 (step S18).

[0030] When there is not that either which there is no form in the 1st cassette 33, or is not chosen as a result of the judgment of step S17, or a form, either and selection is not made, either, it judges whether there is a form and it was chosen by the 2nd cassette 34 (step S19). When there is a form and it is chosen by the 2nd cassette 34, the green of the 2nd cassette LED 24 is turned on, and the paper size of the 2nd cassette 34 is displayed on a display 41 (step S20).

[0031] When there is not that either which there is no form in the 2nd cassette 34, or is not chosen as a result of the judgment of step S19, or a form, either and selection is not made, either, it judges whether there is a form and it was chosen by the detachable tray 32 (step S21). When there is a form and it is chosen by the detachable tray 32, the green of detachable tray LED 22 is turned on, and the form width of face of a detachable tray 32 is displayed on a display 41 (step S22).

[0032] When there is not that either which there is no form in a detachable tray 32, or is not chosen as a result of the judgment of step S21, or a form, either and selection is not made, either. Although there is a form among a detachable tray 32, the 1st cassette 33, and the 2nd cassette 34, the green of LED 22, 23, and 24 is turned on (step S23). "An automatic, i.e., manuscript size," is automatically judged on a display 41, a form is chosen, and it indicates that it is the mode to copy (step S24).

[0033] Next, steps S16-S24 are repeated until number of copies is inputted, it judges whether the start key was pushed (step S25), number of copies is inputted and a start key is pushed. If number of copies is inputted and a start key is pushed (YES of step S25), paper is fed to a form from hand control or the 1st cassette 33 chosen automatically, the 2nd cassette 34, or a detachable tray 32, and the image which the read station 2 read is printed out in a form (step S26).

[0034] If the 1st cassette 33, the 2nd cassette 34, or a detachable tray 32 will start the check of being a paper jam if print-out is started (step S27), and a paper jam is detected to either LED 23 and 24 of the 1st cassette 33 which the paper jam generated, the 2nd cassette 34, or a detachable tray 32, or 22 is changed to red burning (step S28). The message "Cassette n (or detachable tray) is a paper jam" is displayed on a display 41 (step S29).

[0035] When it confirms whether a form is in the 1st cassette 33 when the check of step S27 does not detect generating of a paper jam (step S30) and there is no form in the 1st cassette 33, the red of the 1st cassette LED 23 is turned on and it is confirmed whether ** is in number of copies which should display and (step S31) print out the message of "having no 1st cassette form" on a display 41 (step S32).

[0036] When the number of the remainders is to have exhausted the form to the 1st cassette 33, steps S27-S31 are repeated until it returns to step S27 and a form is supplied. Processing is ended after the print for a repeat and number of copies ends the step after step S26, judging whether it is termination of the print for number of copies (step S33), when a form is in the 1st cassette 33 as a result of the check of step S30.

[0037]

[Effect of the Invention] In the 1st invention, since the life of the condition relevant to the component of equipments, such as a form cassette, a toner bottle, and a drum, for example, a form piece, a toner piece, and a drum etc. displays on the location equivalent to the arrangement location of each component on the typical graphic form which showed arrangement of these components in outline drawing of the whole equipment, a user does so the outstanding effect that the condition of each part of equipment can grasp intuitively.

[0038] In the 2nd invention [of which form cassette in two or more form cassettes the recording paper was chosen as the copy, and] Since each of two or more sorts of attributes of a form cassette – whether one of form cassettes is form pieces or by which form cassette the paper jam occurred – is displayed in a different display mode. The outstanding effect that many kinds relevant to each component of conditions can be collectively displayed on a small screen product called an one graphic form top is done so.

[0039] In the 3rd invention, that the recording paper of a form cassette was chosen as the copy, for example by burning of green LED. Since each condition of two or more attributes of a component is distinguished and displayed by the color of a display using one graphic form as it said that a form piece was displayed by burning of red LED, moreover, a user. Even if each condition of two or more sorts of attributes is displayed in relation to each component, the outstanding effect that the condition can be grasped intuitively is done so.

[Translation done.]

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